Amendments to the Claims

1-22. (Cancelled)

23. (Previously Presented) A method for a sender to guarantee an exactly once delivery of a message to a receiver, the method comprising:

associating an expiration time with the message;

associating an identifier with the message;

storing the message in association with the expiration time and with the identifier;

sending to the receiver the message in association with the expiration time and with the identifier; and

upon reaching the expiration time, if the message has not yet been deleted, then deleting the message along with the identifier and the expiration time associated with the message, the deleting being performed by a scavenger thread of the sender.

24. (Previously Presented) The method of claim 23 further comprising:

receiving from the receiver an acknowledgement of receipt of the message; and

deleting the message along with the identifier and the expiration time associated with the message.

25. (Previously Presented) A computer-readable medium having instructions for performing a method for a sender to guarantee an exactly once delivery of a message to a receiver, the method comprising:

associating an expiration time with the message;

associating an identifier with the message;

storing the message in association with the expiration time and with the identifier;

sending to the receiver the message in association with the expiration time and with the identifier; and

upon reaching the expiration time, if the message has not yet been deleted, then deleting the message along with the identifier and the expiration time associated with the message, the deleting being performed by a scavenger thread of the sender.

26. (Previously Presented) A method for a receiver to guarantee an exactly once delivery of a message from a sender, the method comprising:

receiving the message in association with an expiration time and with an identifier; and

if the expiration time has passed, then discarding the message and the associated expiration time and identifier;

else if the identifier is associated with another message already received by the receiver, then discarding the message and the associated expiration time and identifier;

else storing the message in association with the expiration time and with the identifier, performing an action associated with a content of the message, and upon reaching the expiration time, if the message has not yet been deleted, then deleting the message along with the identifier and the expiration time associated with the message, the deleting being performed by a scavenger thread of the receiver.

27. (Previously Presented) The method of claim 26 further comprising:

sending to the sender an acknowledgement of receipt of the message.

28.   (Previously Presented) A computer-readable medium having instructions for performing a method for a receiver to guarantee an exactly once delivery of a message from a sender, the method comprising:

receiving the message in association with an expiration time and with an identifier; and

if the expiration time has passed, then discarding the message and the associated expiration time and identifier;

else if the identifier is associated with another message already received by the receiver, then discarding the message and the associated expiration time and identifier;

else storing the message in association with the expiration time and with the identifier, performing an action associated with a content of the message, and upon reaching the expiration time, if the message has not yet been deleted, then deleting the message along with the identifier and the expiration time associated with the message, the deleting being performed by a scavenger thread of the receiver.